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EXAMINER

MARCHESCHI, MICHAEL A

ART UNIT PAPER NUMBER

1755

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/719,135	Applicant(s) KIM ET AL.	
	Examiner Michael A Marcheschi	Art Unit 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 30-49 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 10/096,266.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/5/04</u> . | 6) <input type="checkbox"/> Other: ____  |

Claims 33, 34 and 46-49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 33 is indefinite as to the limitation "rotary type" because the examiner is unclear as to what this encompasses. What does the term "type" mean when appended to "rotary"? Is it a rotary system or not? The term "type" should be canceled.

Claim 34 is indefinite as to the limitation "linear type" because the examiner is unclear as to what this encompasses. What does the term "type" mean when appended to "linear"? Is it a linear system or not? The term "type" should be canceled.

Claim 46 is indefinite as to the limitation "an acidity regulating compound in such an amount **as to keep up pH of said slurry as 1 to about 7**" because this limitation is not defined in a clear and concise manner.

Claim 47 is indefinite because the lower limit of the pH (about 1) is outside the scope of the lower limit of the pH defined in claim 46

Claims 48-49 are indefinite because they depend on an indefinite claim.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 30-42 and 46-48 are rejected under 35 U.S.C. 103(a) as obvious over Wang et al. (337) in view of Wang et al. (991) and Dirkson et al. and further in view of (1) applicants own admission on page 4, lines 10-14 and (2) Mueller et al. (935).

Wang et al. (337) teach in sections [0020]-[0036] and [0017]-[0020], a method of polishing metal composite layers (claimed material obvious see below) which comprising polishing said layer with a polishing composition which comprises water, an abrasive (claimed amount), cerium ammonium nitrate (used in the claimed amount), an organic acid and optional components (components that improve or enhance the performance of the system).

Wang et al. (991) teach in section [0034] that pH adjustors are known to be added to CMP compositions in order to improve or enhance the performance of the system.

Dirkson et al. teach in section [0019] that inorganic acids are known pH adjustors.

Mueller et al. (935) teach in section [0035], conventional polishing parameters.

Applicants admit on page 4, lines 10-14, conventional polishing parameters.

Although the primary reference does not literally define polishing a RTN pattern, the broad disclosure in section [0020] makes this obvious because metal composites include nitrides of the defined metals (combination).

With respect to the claimed inorganic acid, the primary reference clearly implies that pH adjustors can be used because the optional additives are defined as components that improve or enhance the performance of the system and this broadly makes obvious pH adjustors because they fall within this category, as shown by Wang et al. (991). The claimed inorganic acids would have been obvious because these are known pH adjustors as shown by Dirksen et al. With respect to the amount of acid, one skilled in the art would have known by routine

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experimentation and optimization the desired acid concentration needed to adjust the pH to be within the range desired for the polishing composition, said amount proving to be optimal within the claimed range absent evidence to the contrary. In addition, although the reference does not literally define an amount for this component, it is the examiners position that since the reference fails to mention any specific concentration (criticality), this (the absence of any such limitation) constitutes a broad teaching of concentration, as long as the final polishing composition is obtained. In view of this, it can be reasonably interpreted that the claimed values are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality).

With respect to the pH, the primary reference states that the pH is adjusted away from the isoelectric point and it is the examiners position that this broadly makes obvious the claimed pH values. In addition, all composition must have a pH and although the reference does not literally define this, this does not preclude the material of the reference from having the claimed values. It is therefore the examiners position that since the reference fails to mention any specific pH (criticality), this (the absence of any such limitations) constitutes a broad teaching of these values, as long as the final polishing composition is obtained. In view of this, it can be reasonably interpreted that the claimed values are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality).

With respect to the size of the abrasive, one skilled in the art would have known by routine experimentation and optimization the desired abrasive size needed to produce the desired abrasive character of the reference polishing composition. In addition, the desired particle size is a function of the application and mere recitation of that size does not represent a patentable

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distinction over the primary reference to one of ordinary skill in the art, lacking evidence to the contrary.

Finally with respect to the polishing method limitations of claims 32-34, these limitations would have been obvious because (1) applicants admit that polishing parameters within the claimed ranges are known to be used in polishing methods and (2) Mueller et al. teach that the polishing parameters within the claimed ranges are known to be used in polishing methods.

Claims 30-42 and 46-48 are rejected under 35 U.S.C. 103(a) as obvious over Dirksen et al. in view of Wang et al. (337) and further in view of (1) applicants own admission on page 4, lines 10-14 and (2) Mueller et al. (935).

Dirksen et al. teach in sections [0008]-[0009] and [0017]-[0020], a method of polishing metal composite layers (claimed material obvious see below) which comprising polishing said layer with a polishing composition (having the claimed pH) which comprises water, an abrasive, a cerium compound oxidizing agent and a pH control agent (nitric acid, etc.).

Although the primary reference does not literally define polishing a RTN pattern, the broad disclosure in section [0008] makes this obvious because metal composites include nitrides of the defined metals (combination). With respect to the oxidizer, the reference teaches that cerium compounds can be used and this broadly makes obvious the claimed material because cerium ammonium nitrate is a known cerium compound oxidizing agent as shown by Wang et al. (337). With respect to the amount, one skilled in the art would have known by routine experimentation and optimization the desired oxidizer concentration needed to produce the desired polishing performance of the composition. In addition, although the primary reference

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does not literally define an amount for this component, it is the examiners position that since the reference fails to mention any specific concentration (criticality), this (the absence of any such limitation) constitutes a broad teaching of concentration, as long as the final polishing composition is obtained. In view of this, it can be reasonably interpreted that the claimed values are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality). Finally, Wang et al. (337) teach conventional amounts for oxidizers in polishing compositions and one skilled in the art would have found this amount to be obvious in the teaching according to the primary reference because it is the examiners position that the primary reference implies that conventional additives are used in conventional amounts.

The primary reference clearly teaches that the claimed acid can be used. With respect to the amount of acid, one skilled in the art would have known by routine experimentation and optimization the desired acid concentration needed to adjust the pH to be within the range of the primary reference, said amount proving to be optimal within the claimed range absent evidence to the contrary. In addition, although the reference does not literally define an amount for this component, it is the examiners position that since the reference fails to mention any specific concentration (criticality), this (the absence of any such limitation) constitutes a broad teaching of concentration, as long as the final polishing composition is obtained. In view of this, it can be reasonably interpreted that the claimed values are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality).

With respect to the amount of abrasive, one skilled in the art would have known by routine experimentation and optimization the desired abrasive concentration needed to produce

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the desired abrasive character of the polishing composition. In addition, although the primary reference does not literally define an amount for this component, it is the examiners position that since the reference fails to mention any specific concentration (criticality), this (the absence of any such limitation) constitutes a broad teaching of concentration, as long as the final polishing composition is obtained. In view of this, it can be reasonably interpreted that the claimed values are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality). Finally, Wang et al. (337) teach conventional amounts for abrasives in polishing composition and therefore said amount would have been obvious to the skilled artisan. With respect to the size of the abrasive, one skilled in the art would have known by routine experimentation and optimization the desired abrasive size needed to produce the desired abrasive character of the reference polishing composition. In addition, the desired particle size is a function of the application and mere recitation of that size does not represent a patentable distinction over the primary reference to one of ordinary skill in the art, lacking evidence to the contrary.

Finally with respect to the polishing method limitations of claims 32-34, these limitations would have been obvious because (1) applicants admit that polishing parameters within the claimed ranges are known to be used in polishing methods and (2) Mueller et al. teach that the polishing parameters within the claimed ranges are known to be used in polishing methods.

Claims 30-42 and 46-48 are rejected under 35 U.S.C. 103(a) as obvious over Wang et al. (365) in view of Wang et al. (337) and further in view of ~~claim~~ (1) applicants own admission on page 4, lines 10-14 and (2) Mueller et al. (935).



Wang et al. (365) teach in column 4, lines 33-55 and column 5, line 50-column 6, line 39, a method of polishing metal composite layers (claimed material obvious see below) which comprising polishing said layer with a polishing composition (having the claimed pH) which comprises water, an abrasive, a cerium compound oxidizing agent and a pH control agent (nitric acid, etc.).

Although the primary reference does not literally define polishing a RTN pattern, the broad disclosure in column 4, lines 33-38 makes this obvious because metal composites include nitrides of the defined metals (combination). With respect to the oxidizer, the reference teaches that cerium compounds can be used and this broadly makes obvious the claimed material because cerium ammonium nitrate is a known cerium compound oxidizing agent as shown by Wang et al. (337). With respect to the amount, one skilled in the art would have known by routine experimentation and optimization the desired oxidizer concentration needed to produce the desired polishing performance of the composition. In addition, although the primary reference does not literally define an amount for this component, it is the examiners position that since the reference fails to mention any specific concentration (criticality), this (the absence of any such limitation) constitutes a broad teaching of concentration, as long as the final polishing composition is obtained. In view of this, it can be reasonably interpreted that the claimed values are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality). Finally, Wang et al. (337) teach conventional amounts for oxidizers in polishing compositions and one skilled in the art would have found this amount to be obvious in the teaching according to the primary reference because it is the

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examiners position that the primary reference implies that conventional additives are used in conventional amounts.

The primary reference clearly teaches that the claimed acid can be used. With respect to the amount of acid, one skilled in the art would have known by routine experimentation and optimization the desired acid concentration needed to adjust the pH to be within the range of the primary reference, said amount proving to be optimal within the claimed range absent evidence to the contrary. In addition, although the reference does not literally define an amount for this component, it is the examiners position that since the reference fails to mention any specific concentration (criticality), this (the absence of any such limitation) constitutes a broad teaching of concentration, as long as the final polishing composition is obtained. In view of this, it can be reasonably interpreted that the claimed values are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality).

With respect to the amount of abrasive, the primary reference clearly defines this. With respect to the size of the abrasive, one skilled in the art would have known by routine experimentation and optimization the desired abrasive size needed to produce the desired abrasive character of the reference polishing composition. In addition, the desired particle size is a function of the application and mere recitation of that size does not represent a patentable distinction over the primary reference to one of ordinary skill in the art, lacking evidence to the contrary.

Finally with respect to the polishing method limitations of claims 32-34, these limitations would have been obvious because (1) applicants admit that polishing parameters within the

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claimed ranges are known to be used in polishing methods and (2) Mueller et al. teach that the polishing parameters within the claimed ranges are known to be used in polishing methods.

Claims 30-42 and 46-48 are rejected under 35 U.S.C. 103(a) as obvious over Wang et al. (991) in view of Dirkson et al. and Wang et al. (337) and further in view of ~~either~~ (1) applicants own admission on page 4, lines 10-14 and (2) Mueller et al. (935).

Wang et al. (991) teach in sections [0013]-[0016], [0029] and [0032]-[0034], a method of polishing metal composite layers (claimed material obvious see below) which comprising polishing said layer with a polishing composition which comprises water, an abrasive, a cerium compound oxidizing agent (claimed amount), a pH control agent and an organic acid.

Although the primary reference does not literally define polishing a RTN pattern, the broad disclosure in section [0013] makes this obvious because metal composites include nitrides of the defined metals (combination).

With respect to the oxidizer, the reference teaches that cerium compounds can be used and this broadly makes obvious the claimed material because cerium ammonium nitrate is a known cerium compound oxidizing agent as shown by Wang et al. (337).

With respect to the claimed inorganic acid, the primary reference clearly teaches that pH adjustors can be used and this broadly makes obvious the claimed inorganic acids because these are known pH adjustors as shown by Dirksen et al. With respect to the amount of acid, one skilled in the art would have known by routine experimentation and optimization the desired acid concentration needed to adjust the pH to be within the range desired for the polishing composition, said amount proving to be optimal within the claimed range absent evidence to the

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contrary. In addition, although the reference does not literally define an amount for this component, it is the examiners position that since the reference fails to mention any specific concentration (criticality), this (the absence of any such limitation) constitutes a broad teaching of concentration, as long as the final polishing composition is obtained. In view of this, it can be reasonably interpreted that the claimed values are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality).

With respect to the pH, all composition must have a pH and although the reference does not literally define this, this does not preclude the material of the reference from having the claimed values. It is therefore the examiners position that since the reference fails to mention any specific pH (criticality), this (the absence of any such limitations) constitutes a broad teaching of these values, as long as the final polishing composition is obtained. In view of this, it can be reasonably interpreted that the claimed values are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality).

With respect to the size of the abrasive, one skilled in the art would have known by routine experimentation and optimization the desired abrasive size needed to produce the desired abrasive character of the reference polishing composition. In addition, the desired particle size is a function of the application and mere recitation of that size does not represent a patentable distinction over the primary reference to one of ordinary skill in the art, lacking evidence to the contrary.

Finally, with respect to the polishing method limitations of claims 32-34, these limitations would have been obvious because (1) applicants admit that polishing parameters within the claimed ranges are known to be used in polishing methods and (2) Mueller et al. teach

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that the polishing parameters within the claimed ranges are known to be used in polishing methods.

Claims 30-37, 39-42 and 46-48 are rejected under 35 U.S.C. 103(a) as obvious over Mueller et al. (935) in view of Dirksen et al. and Wang et al. (337) and applicants own admission on page 4, lines 10-14.

Mueller et al. (935) teach in sections [0009] and [0022]-[0035], a method of polishing metal composite layers (claimed material obvious see below) which comprising polishing said layer with a polishing composition which comprises water, an abrasive (having the claimed size), a cerium compound oxidizing agent and a pH control agent.

Although the primary reference does not literally define polishing a RTN pattern, the broad disclosure in section [0009] makes this obvious because metal composites include nitrides of the defined metals (combination). With respect to the oxidizer, the reference teaches that cerium compounds can be used and this broadly makes obvious the claimed material because cerium ammonium nitrate is a known cerium compound oxidizing agent as shown by Wang et al. (337). With respect to the amount, one skilled in the art would have known by routine experimentation and optimization the desired oxidizer concentration needed to produce the desired polishing performance of the composition. In addition, although the primary reference does not literally define an amount for this component, it is the examiners position that since the reference fails to mention any specific concentration (criticality), this (the absence of any such limitation) constitutes a broad teaching of concentration, as long as the final polishing composition is obtained. In view of this, it can be reasonably interpreted that the claimed values

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are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality). Finally, Wang et al. (337) teach conventional amounts for oxidizers in polishing compositions and one skilled in the art would have found this amount to be obvious in the teaching according to the primary reference because it is the examiners position that the primary reference implies that conventional additives are used in conventional amounts.

With respect to the claimed inorganic acid, the primary reference clearly teaches that pH adjustors can be used and this broadly makes obvious the claimed inorganic acids because these are known pH adjustors as shown by Dirksen et al. With respect to the amount of acid, one skilled in the art would have known by routine experimentation and optimization the desired acid concentration needed to adjust the pH to be within the range desired for the polishing composition, said amount proving to be optimal within the claimed range absent evidence to the contrary. In addition, although the reference does not literally define an amount for this component, it is the examiners position that since the reference fails to mention any specific concentration (criticality), this (the absence of any such limitation) constitutes a broad teaching of concentration, as long as the final polishing composition is obtained. In view of this, it can be reasonably interpreted that the claimed values are encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality).

With respect to the pH, the primary reference states that the composition can have any suitable pH and this broadly encompasses the claimed values. The examiner acknowledges that specific pH values are defined, but these values are the preferred values and "A reference can

**be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.**

Finally, with respect to the polishing method limitations of claims 32-34, Mueller et al. teach that the polishing parameters within the claimed ranges are known to be used in polishing methods. In addition, applicants admit that polishing parameters within the claimed ranges are known to be used in polishing methods for linear polishing systems and the selection of rotary or linear systems would have been an obvious variation thereof.

Claims 30-49 are rejected under 35 U.S.C. 103(a) as obvious over Yano et al. (590) in view of Carpio et al. and further in view of ~~either~~ (1) applicants own admission on page 4, lines 10-14 and (2) Mueller et al. (935).

Carpio et al. teach in column 5, lines 25-30 that the claimed mixture is a known buffering solution (pH adjustor).

Yano et al. (590) teach in column 8, line 11-column 9, line 55, column 11, line 30-column 12, line 55, column 13, lines 35+ and column 16, lines 32-35, a method of polishing metal composite layers (claimed material obvious see below) which comprising polishing said layer with a polishing composition (having the claimed pH) which comprises water, an abrasive (claimed size and amount, cerium ammonium nitrate (used in the claimed amounts), an inorganic acid (nitric acid, etc. used in the claimed amounts) and a pH control agent.

Although the primary reference does not literally define polishing a RTN pattern, the broad disclosure on page 16, lines 32-35 makes this obvious because metal composites include nitrides of the defined metals (combination).

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With respect to the amount of nitrate, abrasive size, abrasive amount, inorganic acid and amount thereof and pH, the reference clearly defined these.

With respect to the buffer solution, it is the examiners position that one skilled in the art would have found the use of any conventional buffer solution, as shown by Carpio et al., obvious as the pH adjustor according to the primary reference because the substitution of one known pH adjustor for another that is used for the same purpose is well within the level of ordinary skill in the art.

Finally, with respect to the polishing method limitations of claims 32-34, these limitations would have been obvious because (1) applicants admit that polishing parameters within the claimed ranges are known to be used in polishing methods and (2) Mueller et al. teach that the polishing parameters within the claimed ranges are known to be used in polishing methods.

**In all of the above rejections, the limitations of claims 31 are not seen to provide any patentable weight because the method is the same, irrespective of the function of the RTN film.**

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

**"A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ**



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545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968)". In addition, "A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976)".

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548. Evidence of unexpected results must be commensurate in scope with the subject matter claimed. *In re Linder* 173 USPQ 356.

The references cited on the 1449 have been reviewed by the examiner and are considered to be art of interest since they are cumulative to or less than the art relied upon in the above rejections.

Any foreign language documents submitted by applicant has been considered to the extent of the short explanation of significance, English abstract or English equivalent, if appropriate.

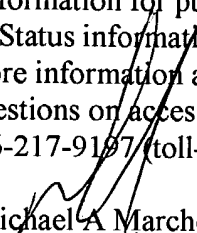
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11/04  
MM

  
Michael A Marcheschi  
Primary Examiner  
Art Unit 1755